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## Which worksite supports for healthy weight do employees use?

Rachel G. Tabak<sup>a</sup>, J. Aaron Hipp<sup>b</sup>, Christine M. Marx<sup>c</sup>, Lin Yang<sup>c</sup>, and Ross C. Brownson<sup>a,d</sup>

<sup>a</sup>Prevention Research Center in St. Louis, Brown School, Washington University in St. Louis, Missouri, United States of America

<sup>b</sup>Department of Parks, Recreation, and Tourism Management, College of Natural Resources, North Carolina State University, Raleigh, North Carolina, United States of America

<sup>c</sup>Division of Public Health Sciences, Washington University School of Medicine, St. Louis, Missouri, United States of America

<sup>d</sup>Division of Public Health Sciences and Alvin J. Siteman Cancer Center, Washington University School of Medicine, St. Louis, Missouri, United States of America

### Abstract

This paper explores factors associated with employee use of available supports for improving nutrition and activity behaviors. A cross-sectional telephone-survey assessed presence and use of available program, facility, and policy supports. Logistic regression was used to explore associations between job characteristics (e.g., supervising others) and use of available supports, adjusting for demographic characteristics. After adjustment, most supports were associated with at least one job-related factor. Participants supervising others were more likely to utilize eight supports including personal services for fitness, indoor exercise and shower facilities, and flextime for physical activity. The programs and facilities associated with the most factors were health fairs (e.g., increased likelihood with increased hours worked/week) and indoor exercise and shower facilities (e.g., increased likelihood with increased flexibility at work), respectively. Policies were associated with fewer factors. Since use of many programs and facilities differed based on job-related factors, employers might target supports based on job-related factors.

### Keywords

Workplace health promotion; Obesity prevention; Workplace environment and policies; Physical activity; Nutrition

### Introduction

Diet and physical activity are important lifestyle behaviors related to obesity and many chronic diseases (Calle, Rodriquez, Walker-Thurmond, & Thun, 2003; Flegal, Kit, Orpana, & Graubard, 2013; Must et al., 1999; Prospective Studies Collaboration, 2009). Existing public health efforts to promote healthy weight have had limited success (Hill, Wyatt, Reed,

& Peters, 2003; Schmitz & Jeffery, 2000), as the focus is often on individuals with the goal of changing behavior through psychosocial and cognitive-behavioral strategies. The socio-ecological framework suggests that beyond the individual, environments and policies have important relationships with behavior (J. Sallis et al., 2006; J. Sallis & Owen, 2015; J. F. Sallis, Owen, & Fisher, 2008; Stokols, 1992; Stokols, Grzywacz, McMahan, & Phillips, 2003), and there is the potential for the environment and policies to promote healthy behaviors (Stokols et al., 2003).

The worksite represents an important environment, which has the potential to impact health beyond the individual level and may be appropriate for efforts to promote behaviors that contribute to a healthy weight. According to the American Time Use Survey, on average, adults spend 8.8 hours per day in work and work-related activities (<http://www.bls.gov/tus/charts/>). Employers recognize the cost that obesity and poor health behaviors among their workers bring to their organization (Cavuoto & Nussbaum, 2014; Finkelstein, Fiebelkorn I, & Wang, 2005; Heinen, 2005; Mattke et al., 2013; M. O'Donnell, 2013; Yen, Schultz, Schnueringer, & Edington, 2006). In addition, the Affordable Care Act contains employer incentives for wellness programs (United States Department of Labor: Employee Benefits Security Administration, 2014). Consequently, many employers in the United States offer wellness promotion initiatives (Mattke et al., 2013) with the hope of a return on investment in terms of employee health, reduced healthcare costs, enhanced productivity, and overall employee satisfaction (Cavuoto & Nussbaum, 2014; Finkelstein et al., 2005; Heinen, 2005; Mattke et al., 2013; M. O'Donnell, 2013; Yen et al., 2006). Worksite supports (e.g., incentives and facilities that support active transportation or access to Employee Assistance Programs) have been associated with employee health and well-being (Sorensen, Linnan, & Hunt, 2004; Wilson, Dejoy, Vandenberg, Richardson, & McGrath, 2004) and health behaviors (Lemon et al., 2009).

Evidence of employee demand for worksite supports exists (Bright et al., 2012; Kruger, Yore, Bauer, & Kohl, 2007). For example, Kruger et al. (2007) found that 43% of participants in a nationally representative sample were interested in nutrition coaching and 89% were interested in exercise programming (Kruger et al., 2007). However, there has been debate about the extent to which employees engage in worksite supports, with some reporting successful uptake and use of supports by employees and others reporting lack of use of supports in place (Mattke et al., 2013; Robroek, van Lenthe, van Empelen, & Burdorf, 2009). This is demonstrated in another example, looking at use of actual services available, which found that only 20% of construction workers with elevated risk of cardiovascular disease invited to participate in a lifestyle intervention study actually chose to do so (Groeneveld, Proper, van der Beek, Hildebrandt, & van Mechelen, 2009). Studies have indicated that there is theoretical employee demand for worksite supports; however, there is a need to determine what worksite supports are likely to actually be utilized (Crump, Shegog, Gottlieb, & Grunbaum, 2001; Groeneveld et al., 2009; Rongen et al., 2014). Without evidence that employees will utilize the worksite supports if offered, employers are less likely to incur costs related to the implementation of supports for healthy behaviors (Mattke et al., 2013; Yen et al., 2006).

Previous work indicates multiple levels on the socio-ecological framework, including individual and employer factors, may influence use of worksite supports for healthy eating and activity (J. Sallis et al., 2006; J. Sallis & Owen, 2015; Stokols, 1992; Stokols et al., 2003). Individual employee factors, such as age, gender, and attitude as well as characteristics of the employee's occupation are related to participation, though the directions of the associations have been mixed, and have depended somewhat on the type of support evaluated (Crump et al., 2001; Lakerveld et al., 2008; Lassen, Bruselius-Jensen, Sommer, Thorsen, & Trolle, 2007; Middlestadt, Sheats, Geshnizjani, Sullivan, & Arvin, 2011; Robroek et al., 2009; Rongen et al., 2014; Wandel & Roos, 2005). For example, a systematic review found that women had higher participation than men, but not for interventions consisting of access to fitness center programs (Robroek et al., 2009). However, a number of other factors about the employee and his/her job, such as the flexibility of his/her schedule, the length of his/her commute, and the number of hours s/he works per week are likely to be important (Morris, Conrad, Marcantonio, Marks, & Ribisl, 1999), but remain relatively unexplored. Other studies have investigated characteristics of worksite supports themselves and found important barriers and facilitators to participation, such as convenient time or location and employer-provided paid time off for participation during the workday (Kruger et al., 2007; M. O'Donnell, 2013; Person, Colby, Bulova, & Eubanks, 2010; Robroek et al., 2009). While individual level attitudes have been explored and found to relate to participation, there has been more limited investigation into the relationship between worksite culture and organizational context and employee utilization of worksite supports, and this work has been limited to a small number of worksites or to specific types of industries (Linnan et al., 1999; Middlestadt et al., 2011; Morris et al., 1999; Robroek et al., 2009; Rongen et al., 2014; Weiner, Lewis, & Linnan, 2009). However, recent work indicated these environmental and organizational factors and social ecological approaches might be particularly important in enhancing effectiveness and sustainability of worksite health promotion efforts (J. Sallis et al., 2006; J. Sallis & Owen, 2015; Sorensen et al., 2004; Stokols, 1992; Stokols et al., 2003). This paper uses the socio-ecological framework to explore individual and organization level factors associated with the use of three types of worksite supports; programs, facilities, and policies, where they are available across a large sample of employees from a diverse set of worksite settings in multiple metropolitan areas.

## Materials and Methods

### Design

Study participants were from a cross-sectional telephone-survey based study, aimed at examining associations between residential and worksite environmental and policy influences on energy balance outcomes, the Supports at Home and Work for Maintaining Energy Balance (SHOW-ME) study (Hoehner, Budd, Marx, Dodson, & Brownson, 2013).

### Sample

To achieve variation in the built environment, and representation by racial/ethnic minority and low-income populations, this study sampled census tracts in four Missouri metropolitan areas (St. Louis area, Kansas City area, City of Springfield, and City of Columbia). Census

tracts with population densities greater than the 10<sup>th</sup> percentile of the population density of study areas or less than 50% inhabitants aged 15-24 years were included. A multistage stratified sampling procedure was used to sample census tracts from seven strata; strata were defined by metro size (large vs. small), and within the large metro size strata, walkability (low, moderate, and high) and percent racial/ethnic minority (low vs. high). Potential participants residing in sampled tracts were recruited using list-assisted, targeted telephone random-digit-dialing. The first eligible adult from each household to volunteer was included in the sample; the response rate was 15%. Between April 2012 and April 2013, 2015 participants were recruited. Participants were required to meet the following inclusion criteria: ages of 21 to 65 years; employed outside of the home at one primary location; employed for 20 or more hours per week at one site with at least five employees; not pregnant; and no physical limitation to prevent walking or bicycling in the past week. The study design was approved by the university's Human Research Protection Office.

## Measures

**Survey Development**—The survey tool was developed for the SHOW-ME study using existing self-reported and environmental assessment instruments as well as previous experience of the project team and input from a special Questionnaire Advisory Panel. Test-retest reliability coefficients in a subsample ranged from 0.41 to 0.97, with 80% of items having reliability coefficients of at least 0.6 (Hoehner et al., 2013). Additional details about the instrument development (e.g., cognitive testing and pretesting) and telephone interview procedures have been described previously (Hoehner et al., 2013).

**Main outcomes - Use of available worksite supports**—Employees were asked if each worksite support (e.g., exercise programs, shower facilities) was available. Table 1 contains a complete list of the supports. If they responded that the support was available, they were asked if they had used the support in the past two months. For three supports (personal services, health fairs, and worksite challenge events) participants reporting the supports were available were asked if they had ever participated. Employees who reported they did not know if they had used the support were considered not to have used it.

### Employee Characteristics

**Socio-demographic variables:** Participants self-reported demographic characteristics including race, age, and gender.

**Job Characteristics**—Participants reported the number of employees at his/her worksite, the number of hours worked per week, and whether or not the participant supervises others. Participants also reported the flexibility of their schedule, the flexibility of their time at work, and their average commute time.

**Weight Characteristics**—Participants self-reported height and weight. These data were used to calculate body mass index (BMI) using  $\text{weight/height}^2$  ( $\text{kg/m}^2$ ), which was dichotomized as not obese (under/normal/overweight;  $\text{BMI} < 30 \text{ kg/m}^2$ ) or obese ( $\text{BMI} \geq 30 \text{ kg/m}^2$ ) (Bray, 1987). Participants self-reported whether or not they were trying to lose weight.

## Analysis

To determine which variable should be included for adjustment in the multivariate models, bivariate associations were explored between use of each worksite support (among those reporting the support was available) and employee demographic characteristics (e.g., race, age, and gender). Logistic regression models explored the associations between use of supports and the participant's job characteristics (e.g., schedule flexibility), with and without adjustment for the other factors under investigation (i.e., race, employer size, age, trying to lose weight, gender, weight status); variables for adjustment were evaluated for collinearity and selected for parsimony. Since the literature on this topic is limited, the socio-ecological framework guided selection of associations to be explored; only those supported by the model were explored (J. Sallis et al., 2006; J. Sallis & Owen, 2015; Stokols, 1992; Stokols et al., 2003).

## Results

Participation in worksite supports, when available, was quite variable, ranging from only 7% for use of bike lock areas to 86% for cafeterias (Table 1). Across the three major domains there was variability in the percent of employees reporting using available supports, with average participation ranging from 39% for facilities to 49% for programs.

### Bivariate analysis

All of the supports were associated with at least one of the covariates explored except for use of outdoor exercise facilities and use of flex time for physical activity; worksite size was associated with use of eight of the supports, race with six; gender and trying to lose weight with five, and age and weight status with two. The results from these analyses are in supplementary tables A1, A2, A3.

### Multivariate analysis

After adjustment for the demographic characteristics explored above, all of the supports were associated with at least one of the job-related factors explored (Table 2, 3, 4). The most consistent associations were with whether the participant reported supervising others (associated with 8 supports; supervisors were more likely to report using the support), the number of hours the participant reported working per week (associated with 7 supports; report of use increased with increased hours worked). Less frequent associations were with his/her commute time (4), and whether or not s/he reported having another job (1).

**Programs**—Employees reporting the highest category of hours worked per week and employees supervising others were most likely to participate in health fairs, and participation increased as reported flexibility at work increased (Table 2). Employees reporting regular day shift schedules had the highest participation in health fairs, followed by employees with rotating/other schedules, and those with regular evening/night schedules having the lowest. The percent of employees participating in personal services for fitness and exercise programs increased in each increasing strata of hours worked per week and among supervisors. Use of personal fitness services was highest among those with rotating/

other schedules followed by regular day and then regular evening schedules. As hours worked per week and commute time increased, use of maps for walking also increased.

**Facilities**—The percent of employees using indoor exercise facilities increased with increasing flexibility at work and among supervisors (Table 3). Also for indoor exercise and shower facilities, those working rotating/other shift schedules had the highest use, followed by those working regular day shifts, with regular evening/night shifts reporting the lowest use. The use of indoor exercise facilities also increased with increasing hours worked per week. There was an increase in reported use of outdoor exercise facilities as flexibility at work increased, and among those reporting another job. Supervisors were more likely to use bike-lock areas as were those reporting the lowest commute time. Cafeteria use was higher among those with some amount of flexibility compared to those with none.

**Policies**—Supervisors were more likely to report using flextime for physical activity as was the group with the commute time between 15 minutes and 29 minutes, compared to those with longer or shorter times (Table 4). Flextime for physical activity was used most by employees with rotating/other schedules and least by those with regular evening/night schedules. Employees who worked the most hours also had increasing use of physical activity breaks. Supervisors were more likely to report using memberships to offsite exercise facilities. Use of incentives for transit increased as commute time increased, especially for those with the longest commute time. Use of incentives to bike/walk to work were not associated with any job-related factors.

## Discussion

This study identified several associations between job-related characteristics and use of workplace supports for healthy nutrition and physical activity behaviors, as hypothesized by the socio-ecological framework (J. Sallis et al., 2006; J. Sallis & Owen, 2015; Stokols, 1992; Stokols et al., 2003). The job-related factor associated with use of the greatest number of workplace supports was whether the respondent reported supervising others; those reporting this role were more likely to utilize eight supports including personal services for fitness, indoor exercise and shower facilities, and flextime for physical activity. Among the workplace programs explored, participation in health fairs was associated with the greatest number of job-related characteristics. For example, the likelihood an employee would report participating in these programs increased as the employee reported working more hours per week. Use of indoor exercise and shower facilities were associated with the greatest number of job-related characteristics; as employees reported more flexibility at work, they were more likely to report using these facilities. Unlike the associations found with programs and facilities, few associations were found between use of available policies and job related characteristics.

Many of the associations identified in the current study might have been anticipated (e.g., supervisors were more likely to use supports than non-supervisors and use of indoor and outdoor facilities increased with increasing job flexibility), but others might have been unexpected such as the positive association between hours worked per week and use of personal services for fitness, participation in health fairs, use of indoor exercise equipment,

and participation in physical activity breaks. This association may be present because these employees have more access due to their longer hours. However, others have found lack of time during the day, scheduling conflicts, and shiftwork schedules to be barriers to participation (Kruger et al., 2007; Osilla et al., 2012; Robroek et al., 2009). Another unexpected finding was the positive association between commuting time and use of incentives for active transport to work. This relationship may be because employees using active transport take longer to get to work. To the best of our knowledge other studies have not investigated this question, but future, qualitative work might shed more light on the nature of this relationship.

Our findings indicate that depending on the worksite support available, there is wide variability in utilization by employees. Others have found variability in awareness, participation, and satisfaction depending on the worksite support in question (Crump et al., 2001; Lassen et al., 2007; Robroek et al., 2009). In previous research looking at preferences for health promotion supports, facilities (e.g., fitness centers), programs (e.g., weight loss programs, exercise classes), and policies (e.g., paid time to exercise at work) have been popular among participants (Kruger et al., 2007). This may indicate employees are more likely to report interest in supports rather than actually using them once they are available; there may be many reasons for the gap between reported interest and actual use (e.g., lack of awareness, lack of time to participate) (Groeneveld et al., 2009; Kruger et al., 2007).

Our findings were similar to those of other studies that found differences in use based on demographic characteristics such as gender (Crump et al., 2001; Lassen et al., 2007), and that these differences depended on the type of support (Robroek et al., 2009). Our finding that women were more likely to participate in health fairs and challenge events and to use physical activity breaks, but were less likely to use shower and bike lock facilities were consistent with previous studies, which found that women were more likely to participate, but not in fitness center programs (Robroek et al., 2009). This indicates that the efforts to include worker preferences in planning implementation of new or modification/promotion of existing worksite supports should include the perspectives of men and women. As in the current study, worksite size has been shown to be related to participation levels. Previous studies have shown greater participation at smaller sites (Lassen et al., 2007); however, our study found mixed associations, with greater use of some supports (e.g., personal services for fitness, health fairs, and exercise programs) as worksite size increased, but lower participation in other supports (such as shower facilities, reduced price memberships, and incentives to walk/bike to work).

Since use of the worksite programs and facilities explored in the current study differed based on demographic and job related characteristics, employers might consider targeting specific supports to certain employee subpopulations based on demographics or job characteristics. For example, since employees reporting rotating or other shift schedules had higher use of exercise programs, these initiatives might be targeted specifically, though not exclusively, at this group. Other efforts might include involving workers in planning, which might allow for targeting to groups already inclined to participate (Sorensen et al., 2004). Inclusion of diverse perspectives in these planning groups or employee advisory boards might also solicit design or promotional characteristics to enhance utilization among those groups less likely

to participate. Fewer of the worksite policies, compared to facilities and programs, seemed to be related to individual or job characteristics, suggesting use of these policies may be more robust. Employers might consider these efforts if they have diverse workforces. This may allow for greater participation with less effort placed on targeting. All of the worksite supports were related to at least one job characteristic, indicating employers should pay particular attention to getting input from a diverse set of stakeholders with a variety of individual and job characteristics.

Our study has limitations worth noting. From this cross-sectional study, it is not possible to determine causality. Further, both presence and use of workplace supports and measures for individual and job characteristics were collected by self-report, which are subject to bias as well as inaccuracy of reporting. Further, participants may be more likely to report the presence of a support if they use it, thus the overall rates of participation may over-estimate true utilization rates within the workplace. There is the potential for additional bias based on who responded to the survey, particularly given the low response rate and the use of only landline phone numbers. We also treated all workplace supports as being equally effective, since it is difficult to weight these differently.

Given the multiple levels of the socio-ecological framework that influence health behaviors, worksite supports for health promotion may promote positive health behaviors among employees (Mattke et al., 2013; J. Sallis et al., 2006; J. Sallis & Owen, 2015; Sorensen et al., 2004; Stokols, 1992; Stokols et al., 2003; Wilson et al., 2004). Our research adds to a growing literature on the effectiveness (Anderson et al., 2009; Biener et al., 1999; Lemon et al., 2009; Mattke et al., 2013; Morgan et al., 2012; Pratt et al., 2007; Salinardi et al., 2013; Verweij, Coffeng, van Mechelen, & Proper, 2010; Weiner et al., 2009), and cost effectiveness (Baicker, Cutler, & Song, 2010; Baxter, Sanderson, Venn, Blizzard, & Palmer, 2014; M. P. O'Donnell, 2014) of worksite health promotion programs by incorporating the important factor of employee participation in worksite supports if they are made available. Our work indicates variability in the level of use of different worksite supports as well as important demographic and job-related factors associated with use. Further research could investigate the reasons for not using supports among the employees reporting availability but not use. These factors should be considered in designing and implementing worksite wellness programs, and perspectives from a diverse set of stakeholders should be sought and incorporated to maximize the potential for success.

## Supplementary Material

Refer to Web version on PubMed Central for supplementary material.

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**Table 1**

Number and percent of participants using worksite supports when they are available.

	Participants Responding Using the Available Support n (%)	Participants Reporting Availability of the Support n (%)
<b>Programs</b>		
Personal services for fitness	576 (61.2)	941 (46.7)
Health fair	705 (71.0)	993 (49.3)
Challenge events	446 (48.3)	923 (45.8)
Exercise programs	243 (33.6)	724 (35.9)
Maps for walking	117(31.6)	370 (18.4)
Mean %yes for programs	49.1%	
<b>Facilities</b>		
Indoor ex facility	271 (38.1)	711 (35.3)
Outdoor exercise facility	238 (41.8)	570 (28.3)
Shower facilities	140 (21.3)	657 (32.6)
Bike lock area	79 (7.1)	1110 (55.1)
Cafeteria	857 (86.4)	992 (49.2)
Mean %yes for facilities	38.9%	
<b>Policies</b>		
Flextime for physical activity	405 (57.4)	706 (35.0)
Physical activity breaks	210 (71.2)	295 (14.6)
Membership	144 (24.5)	588 (29.2)
Incentives bike/walk	45 (26.9)	167 (8.3)
Incentives for transit	116 (32.7)	355 (17.6)
Mean %yes for policies	42.5%	

**Table 2**

Among employees reporting a support was available, percent of employees within and adjusted\* odds ratio for the association between each workplace characteristic and reporting use of the program supports.

Characteristic	Programs													
	Personal services for fitness			Health fair			Challenge events			Exercise program			Maps for walking	
	%	OR (95% CI)	%	OR (95% CI)	%	OR (95% CI)	%	OR (95% CI)	%	OR (95% CI)	%	OR (95% CI)	%	OR (95% CI)
<b>Hours worked per week</b>														
<40	50.3	1.00	60.0	1.00	38.3	1.00	27.7	1.00	25.8	1.00				
40-49	63.0	<b>1.83 (1.28-2.63)</b>	73.4	<b>1.69 (1.18-2.43)</b>	51.2	<b>1.71 (1.19-2.46)</b>	35.1	<b>1.58 (1.01-2.47)</b>	31.8	1.31 (0.71-2.44)				
>=50	68.1	<b>2.60 (1.57-4.32)</b>	76.9	<b>2.91 (1.71-4.95)</b>	49.3	<b>1.86 (1.14-3.02)</b>	35.7	<b>2.14 (1.19-3.86)</b>	41.1	<b>2.53 (1.14-5.64)</b>				
<b>Supervisor</b>														
Yes	68.8	1.00	74.6	1.00	52.9	1.00	33.8	1.00	30.7	1.00				
No	56.8	<b>0.52 (0.38-0.71)</b>	68.9	<b>0.67 (0.50-0.90)</b>	45.7	<b>0.70 (0.53-0.91)</b>	33.3	0.93 (0.67-1.29)	32.3	0.99 (0.64-1.53)				
<b>Other job</b>														
Yes	66.2	1.00	76.2	1.00	46.5	1.00	38.7	1.00	38.7	1.00				
No	60.7	0.93 (0.64-1.35)	70.5	0.65 (0.37-1.13)	48.4	1.14 (0.78-1.66)	32.9	1.06 (0.72-1.56)	31.0	0.63 (0.28-1.45)				
<b>Schedule</b>														
Regular Day	64.1	1.00	72.7	1.00	50.5	1.00	32.4	1.00	31.6	1.00				
Regr eve/ngt	47.7	<b>0.37 (0.22-0.61)</b>	60.9	<b>0.52 (0.31-0.88)</b>	31.2	<b>0.36 (0.21-0.62)</b>	24.2	0.61 (0.31-1.17)	18.8	0.72 (0.27-1.94)				
Rotating/other	52.9	<b>0.57 (0.36-0.88)</b>	66.7	0.84 (0.52-1.35)	45.5	0.75 (0.48-1.18)	46.4	<b>1.79 (1.09-2.95)</b>	39.6	1.63 (0.83-3.19)				
<b>Flexibility at work</b>														
No Flexibility	58.7	1.00	65.6	1.00	46.6	1.00	28.0	1.00	29.3	1.00				
Little/som Flex	61.2	1.22 (0.85-1.76)	71.8	<b>1.49 (1.04-2.14)</b>	49.5	1.19 (0.84-1.69)	30.7	1.33 (0.84-2.10)	31.1	1.02 (0.54-1.92)				
Alot/comp Flex	63.1	1.32 (0.90-1.96)	74.3	<b>1.66 (1.11-2.49)</b>	48.3	1.17 (0.80-1.71)	42.0	<b>2.30 (1.42-3.72)</b>	34.2	1.04 (0.52-2.04)				
<b>Commute time</b>														
<15 min	63.2	1.00	69.9	1.00	46.6	1.00	35.7	1.00	23.5	1.00				
15-29 min	58.8	0.87 (0.62-1.21)	70.9	1.00 (0.70-1.41)	48.0	1.11 (0.80-1.54)	31.3	0.94 (0.63-1.40)	31.9	1.61 (0.89-2.92)				
>=30	62.7	1.00 (0.68-1.46)	72.3	1.16 (0.77-1.74)	50.4	1.12 (0.77-1.63)	34.6	1.01 (0.64-1.59)	41.5	<b>2.55 (1.31-4.96)</b>				

\* Adjusted: Race, Employer size, Age, Trying to lose weight, Gender, weight status

**Table 3**

Among employees reporting a support was available, percent of employees within and adjusted\* odds ratio for the association between each workplace characteristic and reporting use of the facility supports.

Characteristic	Facilities													
	Indoor exercise facility			Outdoor exercise facility			Shower facilities			Bike/lock area			Cafeteria	
Hours worked per week	%	OR (95% CI)	%	OR (95% CI)	%	OR (95% CI)	%	OR (95% CI)	%	OR (95% CI)	%	OR (95% CI)	%	OR (95% CI)
<40	28.1	1.00	40.2	1.00	18.1	1.00	6.7	1.00	83.8	1.00				
40-49	39.8	<b>1.98 (1.26-3.11)</b>	43.6	1.11 (0.71-1.75)	20.5	1.27 (0.72-2.26)	6.4	1.00 (0.54-1.87)	87.2	1.12 (0.71-1.76)				
>=50	43.4	<b>2.23 (1.26-3.94)</b>	37.4	0.97 (0.54-1.76)	27.8	1.75 (0.89-3.45)	10.7	1.44 (0.68-3.03)	87.9	1.17 (0.61-2.25)				
Supervisor														
Yes	46.2	1.00	43.7	1.00	26.2	1.00	9.8	1.00	85.0	1.00				
No	32.9	<b>0.72 (0.52-0.99)</b>	40.8	0.79 (0.56-1.10)	18.1	<b>0.64 (0.42-0.97)</b>	5.4	<b>0.48 (0.29-0.80)</b>	87.3	0.92 (0.67-1.28)				
Other job														
Yes	49.4	1.00	56.7	1.00	29.9	1.00	7.5	1.00	80.4	1.00				
No	36.6	0.90 (0.61-1.34)	40.0	<b>0.50 (0.28-0.89)</b>	20.3	0.73 (0.39-1.35)	7.1	0.92 (0.45-1.91)	87.1	1.58 (0.88-2.83)				
Schedule														
Regular Day	36.4	1.00	41.3	1.00	19.8	1.00	6.9	1.00	87.4	1.00				
Regular/evening/night	31.0	0.79 (0.41-1.49)	40.0	0.91 (0.46-1.84)	11.8	0.63 (0.25-1.57)	5.0	0.71 (0.24-2.05)	82.5	0.56 (0.31-1.04)				
Rotating/other	53.3	<b>1.97 (1.20-3.25)</b>	45.7	1.14 (0.65-2.02)	37.0	<b>1.94 (1.10-3.42)</b>	9.7	1.35 (0.69-2.64)	84.6	0.91 (0.51-1.64)				
Flexibility at work														
No Flexibility	32.9	1.00	35.0	1.00	17.4	1.00	5.8	1.00	82.3	1.00				
Little/som Flex	34.7	1.16 (0.75-1.79)	38.8	1.31 (0.83-2.08)	17.2	1.26 (0.70-2.29)	6.7	1.07 (0.53-2.17)	88.4	<b>1.91 (1.19-3.04)</b>				
Alot/comp Flex	47.1	<b>1.81 (1.15-2.87)</b>	51.4	<b>1.96 (1.22-3.16)</b>	29.9	<b>2.10 (1.16-3.80)</b>	8.4	1.58 (0.78-3.19)	87.7	<b>1.80 (1.08-3.01)</b>				
Commute time														
<15 min	40.0	1.00	39.0	1.00	24.2	1.00	9.2	1.00	84.6	1.00				
15-29 min	36.1	0.87 (0.59-1.28)	39.2	0.91 (0.60-1.38)	17.9	<b>0.56 (0.35-0.91)</b>	6.1	<b>0.56 (0.32-0.97)</b>	88.3	1.18 (0.74-1.86)				
>=30	39.2	0.92 (0.60-1.42)	50.0	1.28 (0.79-2.06)	23.7	0.82 (0.48-1.38)	5.9	0.50 (0.25-1.00)	85.2	0.98 (0.58-1.64)				

\* Adjusted: Race, Employer size, Age, Trying to lose weight, Gender, weight status

Among employees reporting a support was available, percent of employees within and adjusted\* odds ratio for the association between each workplace characteristic and reporting use of the policy supports.

**Table 4**

Characteristic	Policies									
	Flextime for physical activity		Physical activity breaks		Membership		Incentives bike/walk		Incentives for transit	
Hours worked per week	%	OR (95% CI)	%	OR (95% CI)	%	OR (95% CI)	%	OR (95% CI)	%	OR (95% CI)
<40	50.9	1.00	61.3	1.00	23.5	1.00	40.0	1.00	38.4	1.00
40-49	60.0	1.40 (0.94-2.08)	73.0	1.89 (0.99-3.59)	22.9	1.07 (0.63-1.83)	20.6	0.51 (0.21-1.26)	28.3	0.78 (0.41-1.47)
>=50	57.6	1.33 (0.79-2.24)	83.8	<b>3.13 (1.08-9.03)</b>	31.9	1.58 (0.79-3.15)	33.3	0.96 (0.23-4.07)	45.1	1.78 (0.77-4.12)
Supervisor										
Yes	62.9	1.00	76.5	1.00	32.4	1.00	24.2	1.00	35.7	1.00
No	53.5	<b>0.67 (0.48-0.93)</b>	67.8	0.85 (0.47-1.52)	19.3	<b>0.52 (0.34-0.79)</b>	28.8	1.42 (0.61-3.30)	31.3	1.06 (0.61-1.85)
Other job										
Yes	64.3	1.00	76.9	1.00	28.8	1.00	42.9	1.00	40.0	1.00
No	56.6	0.72 (0.43-1.23)	70.6	0.84 (0.32-2.21)	24.1	0.80 (0.41-1.56)	25.5	0.48 (0.13-1.72)	32.1	0.85 (0.33-2.19)
Schedule										
Regular Day	56.0	1.00	71.3	1.00	26.4	1.00	22.0	1.00	32.7	1.00
Regular/evening	48.9	0.71 (0.37-1.35)	65.4	0.67 (0.26-1.73)	15.4	0.51 (0.23-1.16)	46.7	2.34 (0.71-7.71)	27.6	0.39 (0.12-1.28)
Rotating/other	69.0	<b>1.72 (1.05-2.81)</b>	73.9	1.35 (0.60-3.06)	18.8	0.60 (0.29-1.22)	45.0	2.70 (0.89-8.21)	36.2	1.19 (0.55-2.57)
Flexibility at work										
No Flexibility	53.7	1.00	69.6	1.00	20.8	1.00	29.2	1.00	31.9	1.00
Little/som Flex	53.4	0.95 (0.55-1.63)	64.8	0.70 (0.34-1.44)	25.3	1.42 (0.85-2.37)	25.3	0.97 (0.29-3.26)	30.1	1.28 (0.62-2.65)
Alot/comp Flex	62.1	1.39 (0.81-2.39)	78.6	1.25 (0.59-2.65)	26.6	1.33 (0.76-2.33)	28.4	0.92 (0.27-3.16)	37.0	1.48 (0.70-3.12)
Commute time										
<15 min	61.1	1.00	77.5	1.00	25.1	1.00	25.9	1.00	23.7	1.00
15-29 min	53.1	<b>0.68 (0.47-0.98)</b>	67.2	0.59 (0.29-1.17)	26.8	1.14 (0.71-1.81)	23.3	0.86 (0.34-2.17)	26.2	1.02 (0.52-1.99)
>=30	59.6	0.85 (0.56-1.30)	71.4	0.70 (0.31-1.56)	19.3	0.82 (0.46-1.44)	32.1	1.29 (0.49-3.42)	47.8	<b>2.91 (1.47-5.74)</b>

\* Adjusted: Race, Employer size, Age, Trying to lose weight, Gender, weight status